REMARKS

The present application was filed on January 30, 2001 with claims 1-20. In the outstanding Office Action dated August 10, 2006, the Examiner has: (i) rejected claims 1-6, 8-12 and 14-19 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,596,031 to Parks (hereinafter "Parks"); and (ii) rejected claims 7, 13 and 20 under 35 U.S.C. §103(a) as being unpatentable over Parks.

In this response, Applicant traverses the §102 and §103 rejections for at least the reasons set forth below. Applicant respectfully requests reconsideration of the present application in view of the following remarks.

Claims 1-6, 8-12 and 14-19 stand rejected under 35 U.S.C. §102(e) as being anticipated by Parks. With regard to independent claims 1, 8 and 15, which are of similar scope, the Examiner contends that Parks discloses each of the elements set forth in these claims. Applicant, however, respectfully disagrees with the Examiner's contention and submits that the news story markup language (NSML) document disclosed by Parks cannot reasonably be analogized to the methods and apparatus for forming a document model for automatically constructing a semanticall and syntactically valid document in accordance with the claimed invention.

Specifically, the Examiner contends that Parks teaches "associating one or more model elements (Fig. 4A: e.g. [head_tag], [look_tag], [story_tag]) with each of the tag elements (Fig. 4A: e.g. nsml_tag), each model element . . . representing an alternative to the information relating to the corresponding tag." Applicant disagrees with this contention. Figure 4A of Parks includes the grammar rule:

"nsml_tag ::= <nsml> [head_tag] [look_tag] [story_tag] </nsml>".

Parks, at column 16, lines 52-60, states: "Elements appearing between '[' and ']' . . . characters are commonly referred to as essential elements and are thus required in the definition of the particular element. Referring to FIGS. 4A-4C, the NSML elements are defined according to grammar rules. . . . [which] define essential and non-essential elements of the NSML document" (emphasis added).

Reading the grammar rule cited above in light of the specification, Parks clearly indicates that nsml_tag is equal to a head_tag, a look_tag and a story_tag, where head_tag, look_tag, and

story_tag are essential elements, and thus required in the definition of nsml_tag. However, in contrast to Parks, the invention set forth in claims 1, 8 and 15 requires that each model element represent an alternative to the information found in the corresponding tag. Because head_tag, look_tag, and story_tag, each of which the Examiner contends is a model element, are all required to be equal to nsml_tag, which the Examiner contends is an associated tag element, Applicant respectfully asserts that each of these alleged model elements is not itself an alternative to (i.e., equal to) the tag element, and thus Parks does not disclose an element which is analogous to a model element as defined by the present specification. Consequently, Parks fails to teach or suggest at least this limitation of the subject claims.

The Examiner further contends that Parks, at column 16, lines 29-67, teaches the claim limitation of "each of the model elements . . . being operative to capture semantic operation of the corresponding respective tags, each of the one or more model elements associated with each of the tag elements representing a different semantic component of the corresponding tag."

The cited section of Parks discloses a "series of grammar rules, or grammars, that describe the syntax of the markup language" and then continues to define these rules using Backus-Naur Form (BNF), which the specification accurately describes as being a "standard system of notation that is used to describe a grammar rule." However, it is well-known by those skilled in the art that Backus-Naur Form can only be used to describe context-free grammars. *See, e.g.*, Solomon Marcus, Semiotics and Formal Artificial Languages, in 15 Encyclopedia of Microcomputers 305 (Allen Kent & James G. Williams, eds., 1995) ("As Ginsburg and Rice have shown, the BNF is equivalent to the context free grammar."); Michael L. Scott, Programming Language Pragmatics 102 (2000) ("Context-free grammars were first explored by Chomsky in the context of natural language. Independently, Backus and Naur developed BNF for the syntactic description of Algol 60. Ginsburg and Rice recognized the equivalence of the two notations."). *See also*, Seymour Ginsburg & H. Gordon Rice, Two Families of Languages Related to ALGOL, 9 JACM 350 (1961) (containing a mathematical proof which clearly demonstrates that Backus-Naur Form defines only context-free grammars).

Therefore, it is inherent that Parks only discloses the use of context-free grammars. However, context-free grammars can only define syntax and not semantics because semantics is inherently context-sensitive. *See, e.g.*, Solomon Marcus, Semiotics and Formal Artificial

Languages, in 15 Encyclopedia of Microcomputers 305 (Allen Kent & James G. Williams, eds., 1995) ("But as soon as syntactic definitions are supplemented with semantic conditions, the required generative rules have to transgress context-free grammars; these rules are no longer context free, but context sensitive."); Michael L. Scott, Programming Language Pragmatics 165 ("It is conventional to say that the syntax of a language is precisely that portion of the language definition that can be described conveniently by a context-free grammar, while the semantics is that portion of the definition that cannot.")

Therefore, because Parks defines the relationship between what the Examiner contends are model elements and tag elements only in terms of a context-free grammar, the alleged model elements taught by Parks inherently do not have the ability to capture semantic information regarding the corresponding tag, as required by the claimed invention. And Parks provides no disclosure to suggest otherwise. Consequently, Parks fails to teach or suggest at least this additional limitation of the subject claims.

For at least the above reasons, Applicant asserts that claims 1, 8 and 15 are patentable over the prior art of record. Accordingly, favorable reconsideration and allowance of these claims are respectfully solicited.

With regard to claims 2-6, which depend from claim 1, claims 9-12 and 14, which depend from claim 8, and claims 16-19, which depend from claim 15, Applicant submits that these claims are also patentable over the prior art of record by virtue of their dependency from their respective base claims, which are believed to be patentable for at least the reasons given above. Furthermore, one or more of these claims define additional patentable subject matter in their own right.

For example, claims 3, 10 and 17 further define the process of forming the document model as including the step of associating "a group element with a tag element corresponding to a tag in the document when the tag associated therewith includes a plurality of sub-tags, the group element being a child of the model element corresponding to the sub-tree" (emphasis added). Parks fails to teach or suggest at least this additional feature of the invention. With regard to claims 3, 10 and 17, the Examiner contends that Parks teaches "associating a group element (Fig. 3B: 360) with a tag element corresponding to a tag in the document when the tag associated therewith includes a plurality of sub-tags (Fig. 3C: 361, 362, 363), the group element

being a child of the model element corresponding to the sub-tree (Fig. 3B: 360)" (Office Action; page 4, paragraph 3). Applicant respectfully disagrees with this contention.

Specifically, while the tag element, model element and group element may be broadly defined in the present specification, it is not proper for the Examiner to impute a definition to each of these elements which is contrary to the meaning explicitly set forth in the specification and claims. For example, the specification clearly states that "each model element being a child of the tag element and corresponding to a different semantic component" (Specification; page 7, lines 24-25). Furthermore, claims 3, 10 and 17 require that a group element, which is separate and distinct from a model element or tag element, be "a child of the model element corresponding to the sub-tree." The Examiner contends that the element "STORY" (360) disclosed in Parks is analogous to the model element recited in the subject claims. Applicant respectfully disagrees with this contention and submits that, since the STORY element is a direct child of the main element "NMSL" (301), which may be analogized to a tag element as defined by the present specification, Parks clearly fails to teach or suggest the specific inventions set forth in claims 3, 10 and 17.

For at least the reasons given above, claims 2-6, 9-12, 14 and 16-19 are believed to be patentable over the prior art of record, not merely by virtue of their dependency from their respective base claims, but also in their own right. Accordingly, favorable reconsideration and allowance of these claims are respectfully requested.

Claims 7, 13 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Parks. With regard to these claims, the Examiner acknowledges that Parks "does not specifically teach wherein the document to be constructed was an XML document" (Office Action; page 6, paragraph 2). However, the Examiner contends that such additional features "would have been obvious to one of ordinary skill in the art at the time of the invention" (Office Action; page 6, paragraph 2). Applicant respectfully disagrees with this contention and furthermore asserts that claim 7, which depends from claim 1, claim 13, which depends from claim 8, and claim 20, which depends from claim 15, are also patentable over the prior art of record by virtue of their dependency from their respective base claims, which are believed to be patentable for at least the reasons given above. Accordingly, favorable reconsideration and allowance of claims 7, 13 and 20 are respectfully solicited.

In view of the foregoing, Applicant believes that pending claims 1-20 are in condition for allowance, and respectfully requests withdrawal of the §102 and §103 rejections.

Respectfully submitted,

Date: September 7, 2006

Wayne L. Ellenbogen
Attorney for Applicant(s)
Reg. No. 43,602
Ryan, Mason & Lewis, LLP
90 Forest Avenue
Locust Valley, NY 11560
(516) 759-7662